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## **Axis One/Axis Two: A Disordered Borderline**

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### **Abstract**

A brief review of the psychobiological basis of post traumatic disturbance of personality organisation provides a rationale for the descriptor: Post Traumatic Personality Disorganisation. This term is proposed as a more parsimonious way of describing the protean manifestations of trauma, especially attachment trauma. It straddles and perhaps subverts the conventional Axis One/Two organisation, which may itself be borderline.

### **Introduction**

The DSM's hallowed distinction between Axis One and Axis Two disorders has profound implications for psychiatry. The former encompasses 'clinical disorders' and the latter personality disorders and mental retardation (American Psychiatric Association, 1994, p. 26). Implicitly, perhaps, personality disorders are not perhaps 'clinical'. Certainly, in clinical practice personality disorders are not regarded as 'illness' in the same way as are the Axis One disorders. An analysis frequently heard from clinicians is that personality disorder reflects 'behaviour not illness'. The distinction is often made to justify non-treatment or non-admission or even incarceration of the person with 'behavioural' problems. Mental health services may use another version of this dialectic by referring to Serious Mental Illness (SMI), again the implication being that if it is not Axis One then it is either not serious or perhaps not illness. There is no dearth of literature arguing that Axis One disorders, particularly Schizophrenia, Bipolar Disorder and Major Depression, are brain disorders (eg Matcheri, Keshavan, Kennedy, & Murray, 2004.)

The distinction between behaviour and illness is one of mind versus brain and

creates a dichotomy more appropriate to 17<sup>th</sup> century thinking. For at least two centuries now both psychiatrists (McLaren, 1992) and philosophers (Brandom 1994) have argued that mind/brain distinctions are at least highly problematic if not entirely spurious. This is further apparent in the emergent body of evidence on the neurobiology and psychobiology of personality disorder. In this paper I will review some of these data, with an emphasis on Borderline Personality Disorder, which I prefer to describe as Post Traumatic Personality Disorganisation (PTPD). In my experience, PTPD is a common outcome of developmental or attachment trauma. I argue that its status as both a form of Chronic Post Traumatic Stress Disorder (PTSD) as well as Personality Disorder confounds the DSM axial system.

### **Trauma, Abuse, and Personality Disorganisation/Disorder**

There is already a considerable literature on 'post traumatic personality disorganisation' (Horowitz, 1986) and the correlation between Borderline Personality Disorder (BPD) and childhood trauma, especially childhood sexual abuse (e.g., Herman, 1992; Lonie, 1993), while Rutter's classic work on adverse childhood experiences needs no restating here (Rutter and Madge, 1976.). Herman's model of Complex PTSD is well known and her thesis, that BPD is better understood as Chronic or Complex PTSD, is fundamentally what I am formulating here.

Few would argue with Herman's concept and the DSM system now recognizes the seven manifestations of Complex PTSD that she described (disturbances of: affect or impulse regulation; consciousness or attention; self perception; perception of perpetrator; relationships with others; somatization; and systems of meaning). To accept this concept, however, means relocating the disorder from Axis One to Axis Two. There is ample evidence that the symptoms of PTSD not only reflect brain dysfunction, but irreversible dysfunction (van der Kolk et al, 1996). So, does demonstrable brain disorder constitute Serious Mental Illness? If so the slide from Axis One to Two has very major implications.

### **Clinical Experience**

This paper is based on my clinical experience in assessing the psychiatric sequelae of interpersonal trauma. This includes more than 500 cases of adults and

children suffering post traumatic disturbances as a result of:

- abuse in a fiduciary relationship (by a member of the clergy or a teacher);
- patients abused by a treating psychotherapist;
- adult survivors of Childhood Sexual Abuse (CSA);
- adults involved in and children witnessing partner (domestic) violence;
- and children currently or recently suffering abuse within the family.

In the course of these assessments, what has impressed me is the regularity with which the clinical presentation is one of a mix of symptoms of:

- Enduring personality change
- Depression
- Anxiety/panic
- Substance abuse
- Post traumatic phenomena (either the clinical syndrome known as PTSD or else the presence of clinical phenomena short of meeting DSM criteria for PTSD).
- Obsessive-compulsive symptoms are often present as well, although usually not with sufficient intensity to meet criteria for Obsessive Compulsive Disorder (OCD).

#### **Case Example**

Ms A ran away from her family when she was 14. She had suffered physical and sexual abuse since her preschool years; both parents were substance abusers and were violent towards each other as well as their children. Ms A lived with her boyfriend and had two children to him. He was physically violent towards her and they both heavily abused alcohol and cannabis. She finally left him but became involved in a series of abusive relationships and had further children. The pattern was of intense idealization of new partners followed by disappointment, depression, and multiple attempts at suicide and self-harm. She also experienced a violent rape by one partner.

Ms A made a suicide attempt after discovering that her most recent partner was sexually abusing her daughter. She was admitted to a psychiatric unit and diagnosed with Major Depression, Cannabis Dependence and Chronic PTSD. Her then current

symptoms, such as flashbacks, related to the sexual abuse of her childhood and the more recent experiences of domestic violence and rape. She was experiencing panic attacks in response to fears of being stalked by her partner. She was wakeful at night, seeing visions in the doorway and would then repetitively check windows and doors. She had been using cannabis for years as a way of treating symptoms of chronic insomnia and hyperarousal. Since learning of the abuse of her daughter, Ms A's PTSD symptoms were more acute.

There were long standing problems relating to Ms A's eldest boy who was progressing poorly at school, academically and socially. He had been diagnosed as having ADHD and Conduct Disorder and was prescribed Dexamphetamine. She had never been able to contain his tantrums or set appropriate limits, was quite rejecting of him, and had sent him to live with his father.

### **Diagnostic Dilemma**

This case is (sadly) typical of the clinical picture referred to here as PTPD. The history illustrates also how this disturbance is transmitted through generations. The presence of symptoms of all six of the above disorders presents a diagnostic dilemma: should this be formulated as one diagnosis or as a list of several? I suggest that Post Traumatic Personality Disorganisation (PTPD) offers a more parsimonious approach. It is not a DSM diagnostic category, but in that system it can be rendered as Personality Disorder Not Otherwise Specified (PDNOS). On this issue, the ICD 10 system is more helpful and allows for 'post traumatic personality change with catastrophic stress'.

### **Disorders of Extreme Stress Not Otherwise Specified (DESNOS)**

The architects of the DSM system have certainly considered this issue and for some time have considered the inclusion of a category, Disorders of Extreme Stress Not Otherwise Specified (DESNOS). Herman too proposes that Complex PTSD should be rendered as DESNOS (Herman, 1993). In preparing for the DSM IV revision, field trials for DESNOS were successful but finally it was not included and seems unlikely to be included either in DSM V (Phillips, Price, Greenberg, & Rasmussen, 2003, p. 73).

### **Axis One/Axis Two System**

#### **Mental Disorder**

As an Axis One disorder PTSD qualifies as a 'clinical' mental disorder or illness. This is important clinically and profoundly important for forensic definitions of disease of the mind. Personality disorders are not generally regarded as mental illnesses, but as enduring behavioural patterns. This issue of the axial description is of critical importance because the approach to personality disorders in psychiatric practice does not do justice to the severity of the clinical disturbance, the complexity of the individual's treatment needs, and the public health issues relating to intergenerational transmission of mental disorder.

To sustain the axial distinction is highly problematic. If Axis One disorders reflect brain dysfunction, then what underpins behavioural disturbances? Certainly behaviour derives from brain activity. If there is a neural substrate underlying both kinds of disturbance, then how can the Axis One/Axis Two distinction be sustained?

#### **Wilful or Voluntary Behaviour**

A corollary of the Axis One/Axis Two system is that of wilfulness. Generally there is an assumption that mental illness, like most illness, is involuntary, that people do not choose to be depressed or psychotic, any more than they might choose to develop cancer. The prevailing view is of brain dysfunction leading to depression or psychosis. This dysfunction or 'illness' is commonly regarded as having a more biogenetic basis than is the case with personality disorders.

The outcome of this form of argument is critical to the disposition (both clinical and judicial) of persons with mental illness. Those who behave badly but apparently cannot help it because they are ill are generally treated with more tolerance and compassion than those whose bad behaviour is regarded as wilful and voluntary. The social and political consequences are critical. A person suffering from mental illness will receive treatment but a person who is behaving in a dysfunctional way because of personality disturbance is likely to be held accountable for their actions. Some treatment may be recommended for the latter but this may be regarded as a private rather than a public responsibility. Mental health services often have a policy of not

providing treatment for people with personality disturbance whereas there is rarely any question about the need to provide services for the 'mentally ill'.

The question of wilfulness is one of higher order brain functions. There is an implicit assumption that personality disturbances are expressed at this level while 'real' mental illness involves more fundamental brain dysfunction. But this is not the case. Much of the brain disturbance in BPD/PTPD is subcortical, involving middle and lower levels of brain organisation, especially the limbic system and cerebellum. Thus, the dialectic of: Axis One versus Axis Two/illness versus behaviour/wilful versus non-wilful is confounded by the data suggesting that BPD/PTPD is as much 'illness' as any other Axis One Disorder.

### **Developmental Trauma**

#### **Trauma Experienced by Children**

Most of the trauma seen by mental health clinicians in developed societies such as ours relates to the violence of civilian behaviour. Much of this is intrafamilial and suffered by children. The impact of early trauma on developing brains is critical and is translated into permanent dysregulation (Perry, Pollard, Blakely, Baker, & Vigilante, 1995). The extremely high prevalence of violence, abuse and neglect within families is apparent from the following data:

*Child sexual abuse (CSA).* The Australian study of Mazza and Garamszegi (2001) is relatively recent and its methodology is very sound. CSA is reported by 36% of women. A figure of around 30% is extremely consistent and emerges from a number of epidemiological surveys worldwide. Rates reported by males are lower but are probably under-reported.

*Childhood physical abuse (CPA).* The rate is around 11% of children (Wolfner & Gelles, 1993; AIHW, 2004). Obviously this refers to abuse that is identified and would have to be significant, whereas much abuse such as pushing, shoving and threatening can terrorise and traumatise a child without leaving a mark.

*Witnessing Domestic Violence (DV).* One in seven children in Australia witness domestic violence (Indermaur, 2001). There is more awareness in recent years of the extent of this problem. For a child, witnessing DV is almost as traumatising as being a

direct victim. Considering the dependence of children on their caretakers and their intense attachment to them, this is not surprising. Hearing screams and yells in the night is terrorising, and more so when these emanate from primary carers. At an even more fundamental level, it is known that DV intensifies during pregnancy (Mouzos & Makkai, 2004). It is also known that the human foetus reacts to sound and is capable of a primitive form of learning (Leader, Baillie, Martin, & Vermeulen, 1982). We can only speculate on the impact of DV on the developing nervous system of the foetus.

### **Child Abuse and Mental Health Disturbances**

The risk of mental health problems is increased 2-4 times when there is a history of child abuse (Scott, 1992). This refers to the full range of mental health disorders. Risk is related to the severity and duration of the abuse, the presence of coercion or violence, and whether sexual abuse is incestuous (Finkelhor & Browne, 1985). The impact of incest must be understood in terms of both betrayal and the severity of the abuse. When the abuser is a primary attachment figure, there is more profound betrayal and this in itself is more traumatizing for a child than abuse outside of attachment relationships (Freyd, 1996). This is complicated further by the fact that intrafamilial CSA is more likely to be severe and sustained since there is easier access to the child and the opportunity for the abuse to continue over a long period of time. Situations where there is completed intercourse over a period of years are almost always cases of incest. The sexual abuse inflicted by a stranger may include violent penetration but this is far less common than the sustained grooming process of intrafamilial abuse, which may gradually progress to penetrative abuse without overt violence.

### **Adult Sequelae of Childhood Sexual Abuse**

The most common clinical outcomes of trauma are depression and anxiety and substance abuse (Allen, 2001); followed by suicidality, and self harm, antisocial behaviours, eating disorders and personality disorders, PTSD, sexual difficulties and somatoform disorders (Briere, 1992). Although it is trauma specific, PTSD is not high on this list.

*Specific post traumatic disorders.* As the only designated trauma specific syndrome in DSM, PTSD is forensically convenient since causation is specified. But in



cases such as the example of Ms A, it is difficult to specify the trauma. Is it the neglect and abuse of her childhood? Is it the domestic violence and/or the sexual assaults experienced during her adult life? Or is this a case of cumulative trauma?

*Other specific post traumatic disorders.* Two conditions that are generally accepted as more or less trauma specific are Dissociative Identity Disorder (DID) and BPD (or PTPD).

DID is said to be correlated with child abuse in about 100% of cases so it does perhaps qualify as a specific post trauma syndrome. Since causation should be specified when it is known, perhaps this ought to be described as Post Traumatic Identity Disorder. It is because of its reference to the mode of pathogenesis that I prefer the term disorganisation to disorder and because it implies a dynamic rather than a static process. A similar transition took place when Schimmel-Busch Syndrome became known as Battered Child Syndrome (Allen, 2001). Once multiple and apparently (anatomically) unrelated bony lesions were understood to have a common causation in physical abuse, a more coherent descriptor was possible.

A spectrum of dissociative behaviours is associated with trauma and common in BPD. A history of CSA is present in at least 80% of females with BPD and in female self mutilators – these too are fairly specific post traumatic disorders, hence the arguments for describing BPD as a form of PTSD.

*Psychotic disorders.* Associations between early trauma and the psychoses generally are not given much attention. There is a common tendency clinically to deal with them as more biogenetically than environmentally determined, in spite of the stress-vulnerability hypothesis (Zubin & Spring, 1977). Here I will refer only briefly to the correlation between these ‘serious’ mental illnesses and child abuse but there is an extensive literature that supports a link between them (Read, Mosher, & Bentall, 2004). Overall, 50% of psychiatric inpatients have a history of serious childhood abuse, and 51% of female inpatients with schizophrenia have a history of CSA (Briere & Zaidi, 1989). These data further undermine the Axis One/Two distinction.

*Depression.* Life time prevalence for depression is strongly correlated with abuse. It is 14% where there is no abuse; 26% in the presence of one form of abuse (CSA or

CPA); and 38% when both CSA and CPA have occurred. This is independent of poor maternal care (Hill et al, 2004).

### **Attachment Trauma**

The chief effects of trauma are affect dysregulation and disturbances in attachment (interpersonal) relationships. When the trauma is suffered in the context of an attachment relationship, as is true of much childhood abuse, the impact on the relational capacity of the child is profound. Simplistically perhaps, this form of trauma might be understood as placing the child in an approach/avoidance dilemma. There are many animal analogues for the breakdown that ensues in such a situation and obvious parallels with disorganized attachment (Solomon & George, 1999). These patterns persist and are manifest in disorganisation of personality with entrenched patterns of dysfunctional relationships. Similarly, the apparently contradictory re-experiencing and avoidance phenomena of PTSD, may resemble the approach/avoidance dilemma.

### **Neurobiological Effects of Trauma**

PTSD is defined on the basis of three symptom clusters - hyperarousal; re-experiencing; and avoidance – and much is already known about the neurobiological basis of these phenomena. Schore (1996) has documented the impact of trauma on the infant brain, with neuronal pruning resulting in smaller brains. These infants begin life with a diminished capacity in the neural substrate. But early maltreatment also affects more primitive structures, the cerebellum and limbic system (Teicher, 2000).

Teicher et al (1994) propose a neurobiological model of BPD, conceptualising this in terms of three major disturbances: stress intolerance and heightened reactivity; impaired self-soothing and chronic dysphoria; and splitting and polarization of self/other concepts. This provides a more complete picture of BPD/Complex PTSD/PTPD: impaired self-soothing and chronic dysphoria are often associated with substance abuse; while polarization and splitting contribute markedly to the pervasive patterns of disturbed relationships.

### **Stress Intolerance and Heightened Reactivity**

The *sine qua non* of trauma is affect dysregulation and associated difficulties with hyperarousal, impulsivity and suicidality.

Laboratory studies of neglected infant rats demonstrate effects on the glucocorticoid, noradrenergic and antidiuretic systems. Effects mediated via the adrenocorticoid axis are well known and refer to the classic flight/fight response, while the freeze response provides a paradigm for dissociative phenomena.

Disturbances of the antidiuretic system (vasopressin and oxytocin) are less well known or understood. In laboratory rats they affect sexual arousal and climax. Perhaps early abuse can affect sexual relatedness not only via the more obvious (psychological) pathway of disturbed object relationships but also via physiological mechanisms affecting sexual responsivity.

Obviously a more intense reaction to stress is highly adaptive for short-term survival and this would explain its evolutionary advantages, but when hyperarousal becomes an entrenched pattern, it will eventually impair daily functioning and the capacity for adaptive relational behaviour.

Abandonment or perceived threats of abandonment are potent precipitants of anxiety and depression. In BPD/PTPD, impaired self-soothing and chronic dysphoria activate 'frantic efforts to avoid abandonment' (DSM, p IV, p654) and often impel the individual towards poorly judged relationships or self-medicating behaviours, which, in turn, lead to substance abuse. Marginally more adaptive perhaps is care-eliciting behaviour directed towards clinicians, which usually results in prescription of psychotropic medications.

### **Polarization of Self and Others**

Polarization or splitting of self/other concepts leads to the alternating extremes of idealization and denigration that are so characteristic of BPD. There is a model for this perhaps in the impact of abuse on the corpus callosum.

In the left hemisphere there are particular centres for verbal language and in the right hemisphere for spatial information. Possibly more positive affective states are mediated in the left and more negative affective states in the right hemisphere – although with affective states we are not dealing with anything so specific as is true for example of Broca's (language) area. Communication between the hemispheres occurs via the corpus callosum. In a crude sense, this enables simultaneous access to feelings

and cognition. Generally females have more interhemispheric communication than do males. In states of high arousal, when an individual is flooded with negative affect, there is less access to thinking. Thus, cognitive and interpretative approaches are a waste of time until hyperarousal is ameliorated. One of the ways that CBT techniques assist is by rehearsing self-soothing until it becomes learned or more easily accessible to the individual. Teaching the anxious person to calm down and rehearse self-soothing is dealing with brain dysfunction in an orderly way. Analytic therapists pursue the same orderly approach when they aim at containment before interpretation.

Via the corpus callosum, early abuse appears to affect hemispheric integration, communication and dominance. Abused children manifest significant hemispheric asymmetry and this is more marked in boys who have suffered maltreatment, while in girls it is more evident in those who have been sexually abused. Given that BPD is mostly diagnosed in females, this makes for a complex biopsychosocial equation since the brain is sexually dimorphic from very early in foetal life, there are sex differences in brain laterality, and sex differences in early experiences.

Poor left/right integration means an impaired capacity to switch between the emotional and the rational. This may provide a model for the splitting/polarization of BPD. Teicher et al. (1994) have suggested that the fearful/feared parent may be represented in the right hemisphere while the loving/loved parent is represented in the left. This may provide a model for good and bad introjects.

Early abuse has a profound impact on the developing brain and these changes are adaptive. In an evolutionary sense this would have to be so - to be more irritable, impulsive and suspicious with a tendency to quicker flight/fight reactions is evidently adaptive in the short term for survival in a hostile environment. But there is a downside to this, particularly if states of hyperarousal persist (as they are most likely to in an intrafamilial context). There comes a point when the neural substrate is altered and 'states become traits' (Perry et al, 1995). Importantly, because much of this neural activity is subcortical, these responses may be more or less automatic.

### **Psychobiology and Axis One/Axis Two**

These data suggest a model for BPD/PTPD (and other disturbances). Early

(including preverbal) experience fashions brain structure and early trauma is an important determinant in a wide array of psychiatric disorders.

With so much evidence now available on the psychobiological substrate of personality disorganisation, it seems we must ask: What is the status of the Axis One/Axis Two distinction? What constitutes Serious Mental Illness? What is the usefulness of clinical distinctions between illness and behaviour?

### **Treatment**

Here I consider treatment only briefly in the light of these neurobiological data. There is a wide range of psychotherapies and they are often promoted as competing with each other for utility or validity or efficacy. It may be that all are useful in different ways since different phenomena or symptoms need different interventions at different times. On the basis of the model presented here, the therapy of PTPD can be formulated as follows:

- Provide containment and interpersonal safety (decreasing limbic irritability);
  - internalise self soothing (left hemisphere activity);
- provide a model for a safe attachment relationship; modify negative constructs (bad introjects) and internalise new introjects of good enough relationships (interhemispheric activity);
- and learn to express and name emotion, integrating feelings with words and understanding (interhemispheric activity).

Other considerations follow: for example, the acute versus the chronic phase of various disorders is reflected in different sites of brain dysfunction, therefore different interventions are required. Similarly, hyperarousal involves a different brain mechanism compared with states of numbing and avoidance. Therapies with an important cognitive component, such as CBT, IPT, psychodynamic and cognitive therapy, are unlikely to be effective until states of arousal are contained. Symptomatic drug use may provide a means to reach this point. Panic and flashbacks are probably right brain phenomena and perhaps may be modulated by promoting increased left brain activity (eg cognitive approaches) and/or drugs.

### Conclusions

Post traumatic personality disorganization (PTPD) is proposed as a descriptor or diagnosis preferable to either BPD or Chronic PTSD or Complex PTSD in describing enduring and dynamic personality changes related to trauma, especially early, developmental or attachment trauma. Early trauma affects brain organization – not only do states become traits, eventually they become entrenched and characterological and part of enduring personality structure with a neurobiological substrate. The two most fundamental effects of trauma are affect dysregulation and disturbed interpersonal relationships. The neurobiological basis for these disturbances has been reviewed briefly.

PTPD is a valuable and parsimonious way of describing a range of phenomena that may otherwise require multiple DSM descriptors. If causation is known then it should be specified diagnostically and if multiple symptoms complexes have a common causation, then this too should be acknowledged. PTPD provides this and is a more coherent descriptor for the otherwise protean yet pervasive sequelae of childhood abuse and neglect.

A psychobiological understanding of trauma and its sequelae also provides a more coherent approach to therapy and a rationale for a variety of very different approaches.

Finally, and most importantly for this discussion, PTPD subverts the axial DSM system and raises questions about its validity and utility as a diagnostic system. PTPD would have to be understood as both an Axis One and an Axis Two disorder - a disorder on the border between the two axes. Or perhaps the Axis One/Axis Two border is a disordered one.

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